

Carolina HPV Immunization Attitude Scale

(draft 1, 9/25/08)

Updates in this and other scales are available online: <http://www.unc.edu/~ntbrewer/hpv.htm>.

Preferred citation

McRee, A., Brewer, N. T., Smith, J. S., Reiter, P. L., & Gottlieb, S. (2008). Carolina HPV Immunization Attitude Scale (CHIAS). Unpublished manuscript.

The scale is based on data collected from wave 1 of the CHIME Project Caregiver study.

Items

Sixteen items measured parents' attitudes about HPV vaccine (Table 1). Two items (1-2) assessed attitudes about the effectiveness of the vaccine against genital warts and cervical cancer. These were accompanied by 4-point scales (slightly, moderately, very and extremely). Four items (3-6) about perceived difficulty of finding a provider to get the vaccine were accompanied by 3-point response scales (not hard at all, somewhat hard, and very hard). The remaining items (7-16) were accompanied by 4-point response scales ranging from (strongly disagree, somewhat disagree, somewhat agree, strongly agree). As there was no neutral option, respondents who reported that they did not know were recoded to the middle of the scale. One item (16) that was found to be negatively correlated with others in its factor was reverse coded.

Table 1. HPV vaccine attitude variables

	Cronbach's alpha (α)
Effectiveness (perceived HPV vaccine effectiveness)	.61
1 "How effective do you think the HPV vaccine is in preventing genital warts?"	
2 "How effective do you think the HPV vaccine is in preventing cervical cancer?"	
Barriers (perceived barriers to vaccination)	.67
3 "How hard do you think it would be to find a provider or clinic where you can afford the vaccine?"	
4 "How hard do you think it would be to find a provider or clinic that has the vaccine available?"	
5 "How hard do you think it would be to find a provider or clinic that is easy to get to?"	
6 "How hard do you think it would be to find a provider or clinic where you don't have to wait long to get an appointment?"	
7 "I am concerned that the HPV vaccine costs more than I can pay."	
Harms (perceived harms of the HPV vaccine)	.71
8 "The HPV vaccine might cause short term problems, like fever or discomfort"	
9 "The HPV vaccine might cause lasting health problems"	
10 "The HPV vaccine is being pushed to make money for drug companies."	
11 "I think the HPV Vaccine is unsafe"	

12 “If a teenage girl gets the HPV vaccine, she may be more likely to have sex”

13 “[Child’s name] is too young to get a vaccine for a sexually transmitted infection like HPV.”

Uncertainty (uncertainty about the vaccine)

.64

14 “The HPV vaccine is so new that I want to wait a while before deciding if my daughter should get it”

15 “I don’t have enough information about the HPV vaccine to decide whether to give it to [child’s name].”

16 “Other parents in my community are getting their daughters the HPV vaccine.” *

*Reverse coded

Changes to scale

For studies of non-parent populations, we recommend the changes in Table 2 (see underlined text). In web or print versions of the scale, we recommend either not using a middle category and allowing people to not answer, or adding a middle “Neither agree nor disagree” option.

In our wave 2 study, we added the following items to the harms scale:

“The HPV vaccine often causes dizziness or nausea.”

“The HPV vaccine often causes severe pain at the injection site.”

Table 2. Recommended changes for study populations who are not parents.

Harms (perceived harms of the HPV vaccine)

“Adolescent girls are too young to get a vaccine for a sexually transmitted infection like HPV.”

Uncertainty (uncertainty about the vaccine)

“The HPV vaccine is so new that I want to wait a while before deciding if I should get it”

“I don’t have enough information about the HPV vaccine to decide whether to get it.”

“Other women my age in my community are getting the HPV vaccine.”

Appendix

Abstract submitted to the 2009 meeting of the Society for Behavioral Medicine.

TITLE: Development of a Scale to Assess Parents’ Attitudes about HPV Vaccination

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ABSTRACT BODY: Background. Despite over 50 published studies of HPV vaccine acceptability, no standardized instruments, to our knowledge, exist to assess attitudes toward the vaccine. We developed a scale to assess parents’ attitudes about HPV vaccination, examining its psychometric properties and association with intentions to vaccinate.

Methods. We interviewed parents (n=783) who had not vaccinated their adolescent daughters against HPV and were residents of North Carolina counties with high cervical cancer mortality. We oversampled African Americans and rural areas. Respondents evaluated 16 statements about HPV vaccine that were either modified from previous

studies or newly developed. We conducted an exploratory factor analysis of these items using principal components analysis with direct oblimin rotation. Simultaneous linear regression was used to examine the relationship of factors and intentions, controlling for sociodemographic characteristics. We report standardized regression coefficients.

Results. Analyses identified four factors: vaccine effectiveness (2 items), barriers to vaccination (5 items), perceived vaccine harms (6 items) and uncertainty about the vaccine (3 items). All factors had acceptable reliability (Cronbach's $\alpha > .60$). Higher intentions to vaccinate were associated with believing HPV vaccine is more effective ($\beta = .06$) or has fewer harms ($\beta = -.42$), reporting more barriers to access ($\beta = .12$), and having less uncertainty about the vaccine ($\beta = -.28$) (all $p < .05$).

Conclusions. Contrary to a recent systematic review (Brewer & Fazekas, 2007), perceived effectiveness and barriers played only a small role in HPV vaccination intentions. Beliefs about harms and uncertainty were more important factors, in keeping with the previous review. The positive association of perceived barriers with vaccination intention was unexpected and may be due to greater awareness of barriers among those planning to vaccinate. Future research with actual vaccine uptake over time is needed to validate these findings.